



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX DNV 21.0101** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2022-06-14

Applicant: **Kongsberg Maritime AS**
Kirkegårdsveien 45
3616 Kongsberg
Norway
Norway

Equipment: **KM control & monitoring system cabinet**

Optional accessory:

Type of Protection: **nA db eb ib [ia Ga] [ib Gb]**

Marking: Ex db eb ib [ia Ga] [ib Gb] IIC T4 Gb -20°C ≤ Ta ≤ 55°C
Ex nA db eb ib [ia Ga] [ib Gb] IIC T4 Gc -20°C ≤ Ta ≤ 55°C
Ex db eb mb IIB T5 Gb -20°C ≤ Ta ≤ 55°C

Approved for issue on behalf of the IECEx
Certification Body:

Asle Kaastad

Position:

Certification Manager

Signature:
(for printed version)

Date:
(for printed version)

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2. This certificate is not transferable and remains the property of the issuing body.
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Certificate issued by:

DNV Product Assurance AS
Veritasveien 1
1363 Høvik
Norway





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Manufacturer: **Kongsberg Maritime AS**
Kirkegårdsveien 45
3616 Kongsberg
Norway
Norway

Manufacturing locations: **Kongsberg Maritime AS**
Kirkegårdsveien 45
3616 Kongsberg
Norway
Norway

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

[IEC 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-1:2014-06](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

[IEC 60079-15:2017](#) Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:5.0

[IEC 60079-18:2017](#) Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[NO/DNV/ExTR22.0047/00](#)

Quality Assessment Report:

[NO/PRE/QAR15.0003/02](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

RIO cabinet series: RIO Type 1 to Type 5

CAAP cabinet series: CAAP Type 1 to Type 3.

SPECIFIC CONDITIONS OF USE: NO

Annex:

[Annex to IECEx DNV 21.0101.pdf](#)



IECEX Annex to IECEX DNV 21.0101

Description of Product

The investigation covers KM Control & Monitoring system cabinet series which is named RIO (Remote I/O), and Control & Signalling cabinet series which is named CAAP (Critical Alarm & Action Panel). The cabinets are built up by separately Ex certified parts and Ex e enclosure. The system RIO cabinets are built up for multipurpose application, but typically is used as communication system and/or control & monitoring system. The CAAP cabinets consist normally of small built-in control devices such as switches, pilot light and sounder. The CAAP cabinets are used as Control Panel as part of the complete communication system and may exist in variants. The cabinets have different sizes as listed in the respective certificates. Internal electronics are build up by one or several BusRail of I/O modules. Each module has 4 - 16 channels, depending type of signals. Each BusRail of modules are controlled and powered by one or two CPM (CPU & Power Module).

Creepage and clearance distance shall be maintained according to Table 1 of EN 60079-7. Appropriate distance between intrinsically safe and non-intrinsically safe apparatus shall be maintained as required by EN 60079-11.

Following cabinet types in the RIO series and CAAP series are covered by this certification:

RIO Type	Enclosure	Dimensions (HxWxD cm)	CPM *)	I/O modules *)	Electrical data	Ex protection
1	Delvalle TB158045EX/..	150x80x45	Max 4	Max 16	230Vac, 1.5A	1)
2	Delvalle TB138030EX/..	130x80x30	Max 4	Max 16	230Vac, 1.5A	1)
3	Delvalle TB401330EX/..	40x130x30	Max 2	Max 8	230Vac, 0.75A	1)
4	Delvalle TB208045EX/..	200x80x45	Max 6	Max 22	230Vac, 2.25A	1)
5	Delvalle TB608025EX/..	60x80x25	Max 2	Max 4	230Vac, 0.7A	1)
CAAP Type	Enclosure	Dimensions (HxWxD cm)	Lamps	Switch	Electrical data	Ex protection
1	Delvalle LX808025EX 2)	80x80x25	Max 40	Max 20	24Vdc, 1A	1)
2	Delvalle LX606025EX 2)	60x60x25	Max 30	Max 15	24Vdc, 1A	1)
3	Delvalle LX356025EX 2)	35x60x25	Max 20	Max 10	24Vdc, 1A	1)

1) The dedicated Ex protection concept is determined based on the end configuration of used parts/modules. See part [12] for markings. The RIO cabinets may have a smaller number of optional control devices e.g. indicating lamp/display and/or switches building into enclosure. Other cabinet of Delvalle Tribex (TB) series with equivalent or larger size may be used.

2) Other cabinet of Delvalle Luxorex series and GEOEX series with equivalent or larger size may be used.

List of components to be used is referred in 397374, System description document. This certification & investigation are only valid when parts which comprises the end-product, are used within their condition for acceptance of their respective certification. With regards to applicable Ex requirements no condition for safe use must be exceeded, all special condition of use from the listed certification must be followed in details in the end-configuration of system/product.

Type designation

RIO cabinet series: RIO Type 1 to Type 5

CAAP cabinet series: CAAP Type 1 to Type 3.

Electrical Data

230Vac, up to 2.25A for RIO cabinet.

24Vdc, 1A for CAAP cabinets.

Electrical data are detailed in part [15] Description of Equipment or Protective System.



IECEX Annex to IECEx DNV 21.0101

Degrees of protection (IP Code)

Min IP20 for system modules

Min IP65 for cabinets

Ambient temperature:

-20°C to +55°C

Routine tests

Dielectric strength test according to clause 6.1 of EN 60079-7: 2015 shall be performed to the relevant parts in the assembly. Relevant test voltage shall be considered accordingly.